



# Laboratory Animals

## I. Progress towards a global standard in animal care and use

As a diversified global healthcare leader focused on patients' needs, Sanofi is morally and legally obligated to ensure the quality, safety and efficacy of its medicines, vaccines, biologicals, medical devices, and consumer products, as well as to ensure good animal health. The responsible use of animals is essential. Animals remain a small but irreplaceable part of an integrated research and testing strategy that includes non-animal methods and clinical studies.

Sanofi promotes a culture of care which embraces responsible use of animals as a primary value. Whenever the use of animals is required, Sanofi will provide high quality animal care and use programs.

Multiple accomplishments documenting significant progress towards a global standard for animal care and use across all of Sanofi were achieved recently. The inclusion of experts in animal use in the Sanofi Bioethics Committee brings visibility to a global standard for animal use at the highest level of Sanofi. As a result of discussions at the Sanofi Bioethics Committee, many plans are now in motion. A Chief Veterinary Officer for Sanofi Group will be named in 2013 and a Steering Committee on Animal Use will be appointed to oversee all animal care and use at Sanofi, to revise the Sanofi Charter on Humane Care and Use of Animals, to map all internal and external animal use by Sanofi, and to act as a focal point to promote and implement replacement, refinement and reduction (3Rs) programs, including initiation of a Gglobal 3Rs award. The main objective is to be consistently more proactive and more transparent.

Central to the strategy is our commitment to meet or exceed all the regulatory requirements of the new EU Directive 2010-63 and the new version of the National Academy of Sciences *Guide for the Care and Use of Laboratory Animals*. The goal is not only to excel on all of the required international, national and local laws and regulations, but also to seek and maintain accreditation of our animal care and use program through recognized independent organizations such as the Association for the Assessment and Accreditation of Laboratory Animal Care International (AAALAC). In recognition of the broader collaborations across Sanofi and the scientific community, Sanofi is renewing its commitment to ensuring external partners (contract research organizations, breeders and suppliers) comply with animal welfare laws and commit to the spirit of the Sanofi Charter. To do this, Sanofi continues to train professionals across the Sanofi Group, on a regular basis, to evaluate and approve external partners.

## II. Commitment to the 3Rs

As a key element of corporate social responsibility, Sanofi commits to meet or exceed regulations and standards for the use of animals. Sanofi fully adheres to the 3Rs: replacement, reduction and refinement. In this context, Sanofi uses animals only when a non-animal method is unsuited for the required use (replacement), uses animals in the smallest number necessary (reduction), and implements state-of-the-art practices to promote animal welfare and prevent animal pain and distress (refinement). Sanofi authorizes animal research only when the regulatory and scientific merit is established and under strict ethical oversight.

3Rs programs foster scientific and technological development and proactively support replacing, reducing, and refining animal use wherever possible. In addition, Sanofi actively supports several professional organizations, consortia, webinars, scientific conferences and internal programs to advance the 3Rs, such as NJABR 3Rs Sharing Conference, EPAA, and 3R session for DSAR Scientific Forum. It is noteworthy that an expert from Sanofi was elected as the first Chair of the International Consortium on Innovation and Quality in the Pharmaceutical Sciences 3Rs Leadership Group (IQ 3Rs LG).

Animal care and use activities, including active implementation of the 3Rs at the bench level are overseen by ethics committees. These committees ensure that animals are used only where there is an expectation that the results will contribute to the protection and/or improvement of human or animal health. When animals are required to ensure safety or quality of medicines or vaccines, the procedures are performed in accordance with the regulation with the minimum level of pain or distress and only when no suitable alternative exists.

All research protocols are validated by these ethics committees, and the position they take is decisive. Ethics committees are made up of senior animal researchers, personnel in charge of caring for the animals including at least one veterinarian, and an independent member. The committees also include a biostatistician, as often as possible, to ensure that the lowest number of animals is used to generate statistically valid results.

## III. Indicators

### 1. Progress on implementation of European Directive 2010/63 in Europe

A Key Issue Team and a Project Team were appointed to oversee preparations for compliance with laws implementing European Directive 2010/63.



Sanofi was also invited to working groups at the national level and at the European level to share its internal practices.

## **2. Results of animal welfare inspections by responsible authorities**

There were over 20 regulatory inspections at Sanofi animal facilities performed by national and local authorities and no serious deficiencies identified.

## **3. Results of AAALAC accreditation site visits (revisits in 2012, new accreditations in 2012)**

It was noteworthy that Sanofi R&D fulfilled a five-year goal to gain accreditation of all animal sites and programs that were under the Pasteur and Pharma R&D umbrella in 2007. With the recent expansion of the Sanofi Group there are new sites, all of which will be mapped and evaluated for potential future accreditation by AAALAC International.

The list of programs newly accredited by AAALAC International in 2012 includes:

- Alba, France -- Sanofi Pasteur
- Cambridge, Boston, US – Sanofi Pasteur
- Chilly-Mazarin-Longjumeau, France – Sanofi Pharma
- Toulouse, France – Sanofi Pharma
- Montpellier, France – Sanofi Pharma

## **4. Number of CRO and suppliers audited**

In 2012, the compliance with Sanofi principles of 26 CROs and 21 animal suppliers was evaluated.

## **5. Growth of the 3Rs program**

Sanofi Pasteur has replaced the monkey kidney primary cells with the L20B cell line for the inactivation testing of polio vaccines. A multidisciplinary team developed an innovative method using L20B cells that contain the human polio virus receptor gene, thus totally eliminating the need to use animals. In addition to relieving the ethical concerns, this new method is very easy to replicate, optimizes the vaccine yield price, and reinforces the industrial agility of Sanofi Pasteur.

Sanofi made several contributions to refinement of animal use by microsampling. In 2012, the development and validation of several microsampling techniques were communicated globally by several presentations across Sanofi sites and departments.



Sanofi is involved in several IMI projects that will lead to the reduction, refinement and replacement of animals to include:

- eTox, where Sanofi shares available toxicology data to develop in-silico tools to predict toxicity;
- MIP-DILI, in which Sanofi is evaluating various in-vitro models with the aim of improving the predictivity of liver toxicity; and
- StemBanc, where the development of new iPS cell lines should result in developing better predictive tools.